

**CITY OF LOUISVILLE**

**PARKS & RECREATION**

**INTEGRATED WEED MANAGEMENT PLAN**



**City of Louisville, Department of Parks and Recreation**

**February 17, 2009**

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## **I. Purpose**

Noxious weeds are one of the most serious threats facing the City of Louisville open space and public lands. Noxious weeds outcompete native vegetation for resources such as sunlight, water, growing space, and soil nutrients. They are able to do so because they have few natural predators or diseases, are not as palatable to wildlife and livestock as native vegetation, have deep and extensive root systems which more easily sequester water and nutrients, produce thousands of seeds per plant, and some weeds have allelopathic capabilities which inhibit the growth of surrounding native plants.

Once established noxious weeds cause severe ecological and agricultural impacts to our Open Space and Parks properties by decreasing biodiversity, diminishing habitat and forage for wildlife and decreasing crop yield. Additionally, management of weed control efforts requires a considerable amount of funding and time for planning and implementation. For these reasons it is essential that, as land managers, we develop an integrated weed management plan (IWMP) to help establish guidelines that will aid us in controlling noxious weeds.

The Purpose of this integrated weed management plan is to provide weed management guidelines that will:

- Implement the mandates of the Colorado Noxious Weed Act by creating a plan for the control of noxious weeds using integrated control methods.
- Consider the environmental, economic, and social impacts of different control methods.
- Protect visitor and applicator safety, water quality, non-target vegetation, federally endangered or threatened species and local species of concern.
- Reduce the spread of weeds from City of Louisville properties to adjacent or down stream and down wind properties.

This IWMP is intended to be a dynamic document. It will be reviewed and updated to reflect advancements in professional weed control management and changes in noxious weed infestation locations, sizes, and densities on Open Space and Parks.

## **II. Scope**

This integrated weed management plan covers properties that are managed by the divisions of the Parks and Recreation Department in which the City of Louisville is the sole owner. On properties owned jointly with Boulder County, the Open Space Division will follow Boulder County Parks and Open Space protocols in regards to weed control. All contractors hired by the Parks and Recreation Department will be provided with and required to follow this IWMP as well as specific best management practices for different control methods such as mowing and reseeding native vegetation.

Golf Course, Parks, and Open Space staff manage approximately 1,435 acres or 2.2 square miles of land. More specifically, the Coal Creek Golf Course manages approximately 210 acres. The Parks Division, which is made up of the sports complex, community and neighborhood parks, parkways, greenbelts, cemetery and facility grounds manages approximately 538 acres. The Open Space Division manages approximately 687 acres of land not including jointly own properties.

Currently, all fourteen Open Space parcels have infestations of noxious weeds which vary in species composition, density, and patch size. Latest monitoring efforts indicate that there are at least 27 different species of noxious weeds found on Open Space ranging from A, B, and C list species. Please see the appendix for the complete list of noxious weed species.

There is also the presence of one noxious weed, saltcedar, which occurs on private property within the city but not on any city owned land. It is important to be aware of the presence of saltcedar because of the possibility of it spreading to city owned property.

### **III. Definitions**

#### **A. Noxious Weed**

As written in the Colorado Noxious Weed Act, a noxious weed “means an alien plant or parts of an alien plant that have been designated by rule as being noxious or has been declared a noxious weed by a local advisory board, and meets one or more of the following criteria:

- (i) Aggressively invades or is detrimental to economic crops or native plant communities;
- (ii) Is poisonous to livestock;
- (iii) Is a carrier of detrimental insects, diseases, or parasites;
- (iv) The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems” (Colorado Noxious Weed Act, 35-5.5)

#### **B. Integrated Weed Management**

According to the Colorado Noxious Weed Act, integrated weed management (IWM) is “the planning and implementation of a coordinated program utilizing a variety of methods for managing noxious weeds, the purpose of which is to achieve desirable plant communities” (Colorado Noxious Weed Act, 35-5.5). Methods used in integrated weed management include but are not limited to preventative measures, education, monitoring, mechanical control, cultural control, biological control and chemical control. The process of integrated weed management takes into account each method’s potential hazard to people, the environment, and property while also taking into consideration limitations of budget and human resources.

### **C. List A Species**

List A species are uncommon noxious weeds that are found in Colorado in small populations or are not yet found in Colorado but are in surrounding states and threaten to become established. These weeds are mandated for eradication by the Colorado Noxious Weed Act. Please see the appendix for List A species occurring within the City of Louisville.

### **D. List B Species**

List B species are so well established and common throughout Colorado that their total eradication in the State is not feasible. However, isolated populations are recommended for eradication. Suppression and containment are the goals for all other populations. Please see the appendix for List B species occurring within the City of Louisville.

### **E. List C Species**

List C species are widespread and well established within Colorado. The State's goals are to provide education, research, and biological controls to local governments. List C species are the lowest priority for control for the City of Louisville Open Space and Parks Divisions. As resources of time, budget, and staff permit, controls will be conducted to help suppress and contain their spread. Please see the appendix for List C species found within the City of Louisville.

## **IV. Weed Management Strategies**

Using a combination of methods for noxious weed control increases the effectiveness and efficiency of control. This is accomplished by continually depleting nutrient reserves and reducing the ability of the weed to reproduce. Being able to use a variety of methods also allows for the flexibility required to control different species of weed infestations in varying locations under varying and unpredictable environmental conditions. The following list of control methods is not exhaustive. Alternative methods that are not listed below will be evaluated for effectiveness by Open Space and Park staff. Also, some methods may be considered in multiple categories.

### **A. Prevention**

The most effective way to control noxious weeds is to prevent their initial establishment. Once noxious weeds become established, their control is costly and time consuming.

#### **1. Methods**

- a. Limit disturbance to landscapes, especially those that create bare ground
- b. Clean boots, clothing, and equipment of seed before entering and leaving City properties
- c. Monitor and amend soil where appropriate

- d. Require dogs to be leashed
- e. Limit social trails
- f. Require contractors and utility maintenance personnel to reseed or plant native vegetation after creating a disturbance to the soil.
- g. Require weed free restoration materials
- h. Ongoing property monitoring

## **B. Education**

Noxious weed education is an important step in IWM for both the City staff and the public. Weed management is a complex and evolving field of study that requires staff to continually increase their knowledge and understanding so that weed control methods can be used in the most effective means possible. Also, it is important to educate the public about noxious weeds so that they understand the necessity of their control and will support the City's efforts. Furthermore, a more educated public will be able to more effectively control noxious weeds on their own property.

### **1. Methods to Educate Staff**

- a. All applicators will have the oversight of an individual licensed by the Colorado Department of Agriculture as a public pesticide applicator
- b. For licensed public pesticide applicators, obtain continuing education credits as required by the Colorado Department of Agriculture
- c. Attend noxious weed workshops, presentations, and conferences
- d. Networking and communicating with other Colorado weed managers
- e. Forming collaborative partnerships with stakeholders involved with noxious weed management

### **2. Methods to Educate the Public**

- a. Presentations given by staff and other weed control professionals
- b. Interpretive signage
- c. Hosting volunteer weed pull events
- d. Making field contacts
- e. Pamphlets
- f. Submitting articles to the local newsletter and newspapers
- g. Information provided through the City's website
- h. Forming collaborative partnerships with stakeholders involved with noxious weed management

## **C. Monitoring**

Monitoring is a critical tool in integrated weed management as it helps to detect initial weed infestations before they get out of control and also helps to

determine if the current methods of control are effective. A goal of Open Space and Parks is to hand-map weeds and make general observations which will be recorded throughout the season as weed control takes place. All herbicide treatments will be recorded as required through the Colorado Pesticide Applicators' Act.

**1. Beneficial Uses**

- a. Monitoring restoration sites or newly disturbed sites for weed encroachment and restoration progress
- b. Monitoring locally uncommon weed species populations
- c. Monitoring trail corridors for weed dispersal and establishment
- d. Monitoring pastures for overgrazing and weed encroachment
- e. Monitoring high priority weed infestations

**2. Limitations**

- a. Difficulty in determining cause and effect of weed control actions
- b. Can become time consuming

**3. Methods**

- a. Transects and plots
- b. Photopoints
- c. Ocular observations
- d. Mapping by hand or with GPS units

**D. Mechanical Control**

Mechanical controls are those methods that physically remove all or part of a weed, often using hand tools or machinery.

**1. Beneficial Uses**

- a. Controls many annual and biennial weed species
- b. Controls smaller infestations or infestations where the use of chemicals may be undesirable.
- c. Provides excellent opportunities for volunteer events and work for the Boulder County Youth Corps

**2. Limitations**

- a. Can cause soil disturbances and leave bare areas
- b. Often ineffective at controlling rhizomatous perennials (Colorado Natural Areas Program, 2000)
- c. Are labor intensive
- d. Are not cost or time effective for larger infestations of weeds

**3. Methods**

- a. Hand pulling
- b. Clipping seed heads
- c. Using shovels and similar bladed hand tools to sever tap roots below ground
- d. Mowing
- e. Using weed whips
- f. Using chainsaws

- g. Using a propane torch

## **E. Cultural Control**

Specific to Open Space, cultural controls involve the re-establishment and promotion of desirable, competitive vegetation through revegetation and mimicking natural disturbances by conducting prescribed burns and grazing.

**Revegetation** of degraded Open Space through reseeding and planting a diverse mix of native grasses, forbs, shrubs, and trees is a long term goal. Many Open Space properties were acquired in a degraded state that is susceptible to noxious weed infestations. Healthy, native flora communities are more able to resist and compete against invasions of noxious weeds, ultimately reducing the costs of weed control.

### **1. Benefits of Revegetation**

- a. Controls noxious weeds in the long term
- b. Changes degraded sites into ecologically healthy lands
- c. Increases native plant diversity
- d. Increases native plant competition against noxious weeds
- e. Increases structural value of habitat
- f. Increasing nutrient value of forage

### **2. Limitations of Revegetation**

- a. Difficulty and length of time necessary to establish native and/or desirable vegetation
- b. Risk of seed mixes or hay/straw mulches containing weed seed
- c. Difficult environmental conditions to seed in
- d. Cost of reseeding can be expensive
- e. Cost of seeding and soil bed preparation equipment

### **3. Methods of Revegetation**

- a. Broadcast seeding
- b. Drill seeding
- c. Hydro-mulching
- d. Direct planting trees and shrubs
- e. Direct planting wetland vegetation plugs

**Prescribed burns** mimic the natural process of fire that grasslands have adapted to over thousands of years on the Colorado Front Range. Prescribed burns are increasingly used as a tool by land managers to reduce weeds and promote healthy communities of native vegetation.

### **1. Beneficial Uses of Prescribed Burns**

- a. Creates species and stand structure diversity in plant communities
- b. Invigorate root growth of perennial grasses
- c. Reduces infestations of certain weeds

### **2. Limitations of Prescribed Burns**

- a. Difficulty burning in areas surrounded by residential neighborhoods



- b. Availability of experienced fire crews to conduct a prescribed burn
- c. Time it takes to properly plan a prescribed burn that will meet resource objectives
- d. Short windows of time to conduct a prescribed burn due to the need for specific weather conditions to meet resource objectives
- e. Some weeds are favored by fire and may increase in density following a prescribed burn

### **3. Methods of Prescribed Burns**

- a. Local fire departments/districts to write burn plans and conduct prescribed burns
- b. Independent contractors

**Grazing** by ungulates has historically been a part of the Front Range ecosystem which invigorated root growth and created diverse grassland communities. Grazing by cattle and horses on Open Space helps to simulate this process that was once performed by buffalo. Mowing can also be used to serve as a substitute for grazing. Beneficial uses, limitations, and methods can be found previously in section IV.D. Biological Control.

## **F. Biological Control**

Biological controls involve using a weed's natural insect predators or grazing animals to control the weed.

**Biocontrol Insects** for specific noxious weeds are reared by The Colorado Department of Agriculture's Insectary. Most are available free-of-charge or for a small fee.

### **1. Beneficial Uses of Insects**

- a. Controls infestations that are not easily accessible to people and equipment
- b. Controls very large and dense infestations where other control methods would not be cost effective
- c. Controls low priority List C species in which budget and time may not be available for other control methods

### **2. Limitations of Insects**

- a. May reduce but not eradicate a weed infestation (Colorado Natural Areas Program, 2000)
- b. Limited availability
- c. Lack of biological control insects for all noxious weeds
- d. Variable successes (Colorado Natural Areas Program, 2000)
- e. Difficulty and length of time to establish
- f. Although low, risk of insects attacking native vegetation
- g. Difficult to integrate with some other control methods

### **3. Methods**

- a. There are dozens of different insects that specialize in eating different noxious weeds.

Specific to Open Space, **livestock** can be used to help control noxious weeds by limiting seed production and depleting nutrient reserves. The use of livestock requires the supervision of a knowledgeable herder who can manage the duration and intensity of the grazing so as not to damage the landscape and native vegetation. Associated costs can vary widely depending on the person contracted to manage the grazing and the infrastructure required.

#### **1. Beneficial Uses of Livestock**

- a. Controls infestations that are inaccessible to people and equipment
- b. Controls very large and dense infestations where other control methods would not be cost effective
- c. Invigorates root growth of perennial grasses
- d. Creates diverse grassland communities

#### **2. Limitations of Livestock**

- a. Limited availability of experienced and knowledgeable herders
- b. Need for infrastructure such as fencing and a water source
- c. Predation of livestock by coyotes, mountain lions, or bears
- d. Some noxious weeds are poisonous to certain livestock
- e. Some noxious weeds are only palatable to certain livestock
- f. Palatability of weeds varies throughout the season
- g. Risk of spreading weed seed through manure or fur
- h. Risk of overgrazing or trampling native vegetation
- i. Will not eradicate a weed infestation (Tu et al., 2001)

#### **3. Methods**

- a. Goats
- b. Sheep
- c. Cattle

## **G. Chemical Control**

Chemical control involves the use of herbicides to kill noxious weeds. The City of Louisville only uses herbicides that are legally registered by the Environmental Protection Agency. The use of herbicides is an effective and safe means of noxious weed control when used by trained professionals in accordance with accompanying labels.

All applicators will have the oversight of an individual licensed by the Colorado Department of Agriculture as a public pesticide applicator. All contractors will be licensed as commercial pesticide applicators. Licensing requires continuing education on pesticide safety and use. Application equipment is also calibrated to ensure accurate delivery rates. Furthermore, herbicide labels, which are legal documents, are followed precisely and are kept with the applicator in the field.

Public concern over herbicide usage is always considered by the City. The City of Louisville refers to the Colorado Pesticide Sensitive Registry to be able to notify landowners adjacent to City owned properties when an herbicide application will be conducted. To reduce public interaction with treated areas, herbicide applications will be conducted when there is minimal impact to visitors. For example, areas adjacent to a school may be treated on weekends or holidays when children are not present. Also, depending on the size and location of the application, properties may be closed to the public in the event that a broadcast application is necessary and will remain closed at least until the labeled re-entry interval is met.

The City uses herbicides in a responsible manner by doing the following:

- Reducing the amount of herbicides used through the use of IWM.
- Using herbicides that are in the Environmental Protection Agency's Toxicity Category III or IV, indicating low toxicity levels.
- Considering the use of herbicides in a Toxicity Category of I or II only when other methods have been determined to be ineffective, cost prohibitive, or unsafe. Having the ability to use various herbicides with different modes of action is critical to prevent the build up of herbicide resistance by populations of noxious weeds.
- Using herbicides at the lowest recommended rates that are effective to control the targeted weed species. Sometimes using the lowest rate may not control the targeted weed and result in the need for a second herbicide application. Also using low rates that are ineffective may create herbicide resistance in the targeted weed species. For these reasons, the use of higher rates may be recommended.
- Spot spraying weed infestations whenever possible. Broadcast spraying will only be used on large infestations where spot spraying would be ineffective or too time consuming and costly.

### **1. Beneficial Uses**

- a. Controls large infestations in which other methods would be time consuming and cost prohibitive
- b. Controls infestations of rhizomatous weed species (Colorado Natural Areas Program, 2000)
- c. Eradicate high priority List A species that require a fast response as required by the Colorado Noxious Weed Act
- d. Clear fields of vegetation in preparation for grassland reseeding
- e. Prevent weed establishment following a prescribed burn

### **2. Limitations**

- a. Inability to spray certain herbicides near water
- b. Public sensitivity to herbicide use
- c. Formation of herbicide resistance
- d. Possible damage to non-target vegetation

### **3. Methods**

- a. Backpack sprayer
- b. Spray bottles

- c. Wicks
- d. Paintbrushes
- e. ATV or truck mounted hand guns/wands
- f. ATV or truck mounted booms
- g. Aerial applications

## **V. Priority Weed Infestations**

The City of Louisville recognizes that it has limited resources in terms of staff and budget which prevents all weed infestations from being controlled. Thus it is important to prioritize which populations of noxious weeds will be controlled so that these resources can be used efficiently and where they will be most effective.

Priority will be placed on populations of noxious weeds that fulfill one or more of the following criteria:

- Is a List A noxious weed
- Located in environmentally sensitive area such as riparian areas, wetlands, or within populations of rare or imperiled native plant species
- Is small enough where eradication is possible
- Local rarity of weed
- Located along movement corridors such as trails and riparian areas
- Located within a restoration unit or park priority areas
- Weed infestations that cause a profit loss that is greater than the cost of control such as infestations at the Golf Course or other revenue driven properties

## **References**

- Boulder County Parks and Open Space. (no date). Weed Management – Policies and Procedures,  
[http://www.bouldercounty.org/openspace/resources/weeds/weed\\_Mgmt\\_update%20Memo.pdf](http://www.bouldercounty.org/openspace/resources/weeds/weed_Mgmt_update%20Memo.pdf)
- Colorado Natural Areas Program. 2000. Creating an Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values. Caring for the Land Series, Volume IV, <http://parks.state.co.us/NR/rdonlyres/E4FAAC68-00B4-44A8-A4E3-4C88B185BC78/0/IWMhandbooktext.pdf> , version: March 2000
- Colorado Noxious Weed Act, 35-5.5 C.R.S. 1996
- Tu, M., Hurd, C. & J.M. Randall. 2001. Weed Control Methods Handbook, The Nature Conservancy, <http://tncweeds.ucdavis.edu/handbook.html>, version: April 2001
- Uhing, Kelly. 2008. Leafy Spurge Fact Sheet, Colorado Department of Agriculture, <http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobheadertype=Content-Disposition&blobheadertype=MDT-Type&blobheadertype=inline%3B+filename%3D429%2F551%2FLeafy+spurge+02-04-08+MR-NS+Posted.pdf&blobheadertype=abinary%3B+charset%3DUTF-8&blobkey=id&blobtable=MungoBlobs&blobwhere=1191392899520&ssbinary=true>

## **Appendix A: List A, B and C Species**

**Last updated: February 2009**

### **List A species occurring within the City of Louisville:**

- Myrtle Spurge (*Euphorbia myrsinites*) – rhizomatous perennial\*
- Purple Loosestrife (*Lythrum salicaria*) – perennial

### **List B species occurring within the City of Louisville:**

- Canada thistle (*Cirsium arvense*) – rhizomatous perennial
- Scotch thistle (*Onopordum acanthium*) – biennial
- Musk Thistle (*Carduus nutans*) – biennial
- Leafy Spurge (*Euphorbia esula*) – rhizomatous perennial\*
- Diffuse Knapweed (*Centaurea diffusa*) – biennial, sometimes perennial
- Russian Knapweed (*Acroptilon repens*) – rhizomatous perennial\*
- Dalmatian Toadflax (*Linaria dalmatica*) – rhizomatous perennial
- Perennial Pepperweed (*Lepidium latifolium*) – rhizomatous perennial
- Common/Cutleaf Teasel (*Dipsacus fullonum/ laciniatus*) – biennial
- Yellow toadflax (*Linaria vulgaris*) – rhizomatous perennial
- Bull thistle (*Cirsium vulgare*) – biennial, sometimes annual
- Hoary cress (*Cardaria draba*) – rhizomatous perennial
- Bouncing bet (*Saponaria officinalis*) – rhizomatous perennial\*
- Dame's rocket (*Hesperis matronalis*) – biennial or short lived perennial
- Houndstongue (*Cynoglossum officinale*) – biennial\*
- Moth Mullein (*Verbascum blattaria*) – biennial
- Redstem filaree (*Erodium cicutarium*) – winter annual or biennial
- Russian olive (*Elaeagnus angustifolia*) – tree
- Sulfur cinquefoil (*Potentilla recta*) – perennial
- Saltcedar (*Tamarix sp.*) – perennial shrub or tree <sup>1</sup>

### **List C species occurring within the City of Louisville:**

- Field Bindweed (*Convolvulus arvensis*) – rhizomatous perennial
- Cheatgrass or Downy Brome (*Bromus tectorum*) – winter annual
- Chicory (*Cichorium intybus*) – rhizomatous perennial
- Common Burdock (*Arctium minus*) – biennial
- Common mullein (*Verbascum Thapsus*) – biennial
- Puncturevine (*Tribulus terrestris*) – annual\*

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<sup>1</sup>Does not occur on City owned property

\*Toxic to livestock

## Appendix B: Letters of Support

Post Office Box 471 • Boulder, Colorado 80306



### Parks and Open Space Department

Administrative Office: 5201 St. Vrain Road • Longmont, Colorado 80503 • (303) 678-6200 • Fax: (303) 678-6180  
Fairgrounds: 9595 Nelson Road • Longmont, Colorado 80501 • (303) 678-6235/441-3927

September 30, 2008

Ember Brignull  
Open Space Coordinator  
City of Louisville

Dear Ember,

I had a chance to review your Integrated Weed Management Plan you wrote for the City of Louisville and wanted to give my observations. As weed coordinator for Boulder County I believe this to be a plan that represents all the important elements a document of this type needs. It covers areas such as different control methods, priority weeds to target and also specific weed control options to consider for different weed species. It's evident a lot of time and effort has been put towards this plan which shows in the finished product. I am sure you realize a plan of this type is one that needs to be altered in the future as things change, such as new weed species show there ugly heads.

I look forward to working with you to help in any areas that may be needed and to help make this Integrated Weed Management Plan a success for you and your staff and also the City of Louisville.

Sincerely,

Steve Sauer  
Weed Coordinator  
Boulder County Parks and Open Space



September 30, 2008

Department of Biological  
Sciences and Pest Management  
Fort Collins, Colorado 80523-1177

Ember Brignol  
Open Space Coordinator  
City of Louisville  
Louisville, CO

Dear Ember:

After reviewing the City of Louisville Weed Management Plan, I found it to be well-balanced and appropriate. You have blended several methods of weed control into management systems that should be effective when the plan is implemented. I made several suggestions that hopefully will be of use as you refine your plan. The level of organization that you have achieved should make implementation of your plan easy to accomplish and you have allowed for an adaptive management approach, which is most appropriate particularly given our fickle climate in Colorado.

Should you need additional input or as questions arise, please feel free to contact me. Well done on creating the City of Louisville Weed Management Plan!

Sincerely,

K. George Beck  
Professor of Weed Science  
Dept. of Biolog Sciences and Pest Management  
Colorado State University





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John R. Stulp, Commissioner



Bill Ritter, Jr.  
Governor

September 30, 2008

Ember Brignull  
Open Space Coordinator, City of Louisville

Dear Ember,

Thank you for sending me a draft copy of the City of Louisville Open Space Integrated Weed Management Plan. I have reviewed it and provided comments in this letter. Overall, you've created a well-rounded municipal weed management plan and I'm impressed with its scope.

You touch on important issues such as education however I would like to see the addition of forming partnerships to your plan. Partnerships between neighboring municipalities, Boulder County, CSU Extension, Boulder Valley Conservation District, Home Owners Associations, etc. Also, please consider integrating additional information that describes the actual distribution of declared noxious weeds within the City with the management priorities you have set. This could be in the form of maps to make it simple for readers to comprehend locations. In addition, you may want to incorporate the statewide weed management plans for the List B species that Louisville will be managing. These species include perennial pepperweed, Dalmatian toadflax, diffuse knapweed, and leafy spurge. You can make reference to the Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act (8 CCR 1206-2) which contain the management plans. These plans can be used as a tool to guide the City in prioritizing their weed management efforts and to comply with the Colorado Noxious Weed Act.

I hope that my suggestions are helpful and clear but if you have any questions, please call. I would like to have a copy of your finished plan for my files so that I can show other municipalities what their colleagues have put together. There are still a number of municipalities that are drafting their first weed management plan and often find examples from successful programs to be very useful. Thanks again for the opportunity to comment and I look forward to seeing the final product.

Sincerely,

Kelly T. Uhing  
State Weed Coordinator

September 29, 2008

Ms. Ember Brignull  
Open Space Coordinator, City of Louisville  
717 Main Street  
Louisville, CO 80027

Dear Ms. Brignull:

Thank you for the opportunity to review a draft of the City of Louisville's Integrated Weed Management Plan for Open Space. As you know, the document tackles an incredibly relevant issue. After the direct destruction of habitat, invasive species pose the second greatest threat to natural resources in this country. For example, according to the Department of the Interior, invasives were implicated in the listing of over 40% of species protected by the Endangered Species Act. Invasive plants in particular have become widespread, affecting millions of acres of public and private lands across the country. And, the economic cost of weeds to the nation is staggering—estimated at more than \$20 billion per year in damages.

As the former Louisville Open Space Coordinator and the current Open Space Superintendent in Lafayette, I am aware of the extent of the weed problem in the area and the threat that weeds pose to our open space areas. And, the protection of some City properties is all the more critical because of the important native prairie communities located on them. The City's Open Space Integrated Weed Management Plan provides the administrative outline for managing weeds in a manner that is safe, effective, and appropriate. I strongly support the plan and will use this as a model for developing a similar plan in Lafayette.

The plan offers a measured but strong approach to weed management. It describes the multiple methods that can be used to control weeds. A large toolbox with an array of techniques is an absolute necessity for managing this problem. Another critical feature of the plan is its flexibility. It acknowledges the experience, education, and expertise of the City's professional Open Space staff and gives them the necessary discretion for controlling weeds in the best manner they see fit. And, while herbicide use is controversial to some, newer formulations require considerably less chemical amounts and are much lower in toxicity than earlier generations of products. Herbicides are, like all the other methods, a crucial tool in our weed control endeavors.

As both a Louisville resident who backs to open space and as a land manager in an adjacent city, I appreciate the City's efforts to control noxious weeds in order to lessen their spread beyond open space boundaries. Weed management is part of being a good neighbor and a plan such as this is the first step in addressing weeds in a systematic manner with a regional perspective.

The existing negative impact of weeds can be reversed, and minimizing the threat of future infestations is possible. But, it requires a broad approach—an integrated

management plan. One of the most important things a land manager can do to maintain or improve the natural value of landscapes is create and execute a plan for weed management. I look forward to this plan's approval and its timely implementation.

Sincerely,

Jeff Moline  
Open Space Superintendent  
City of Lafayette



## Board of County Commissioners

Jim Congrove  
District No. 1  
J. Kevin McCasky  
District No. 2  
Kathy Hartman  
District No. 3

September 30, 2008

Ember Brignall  
Open Space Coordinator  
City of Louisville  
749 Main Street  
Louisville, CO 80027

Dear Ms. Brignall:

Thank you for the opportunity to review your draft Integrated Vegetation Management plan.

I believe the plan is well thought out and reflects current best management practices within the vegetation management industry. I would however make the following suggestions.

1. As weeds are designated for eradication, certain techniques and materials may be regulated by the Colorado Department of Agriculture. You may want to include a provision reflecting those requirements.
2. Sometimes a product with a Warning label may have a higher LD50 than one with a Danger designation.
3. New products are registered every year and may provide excellent control. You may want to consider including a provision that would allow you to use products not specifically listed in your plan.

Please let me know if you have any questions concerning my comments.

Sincerely,

Alicia Dorso  
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